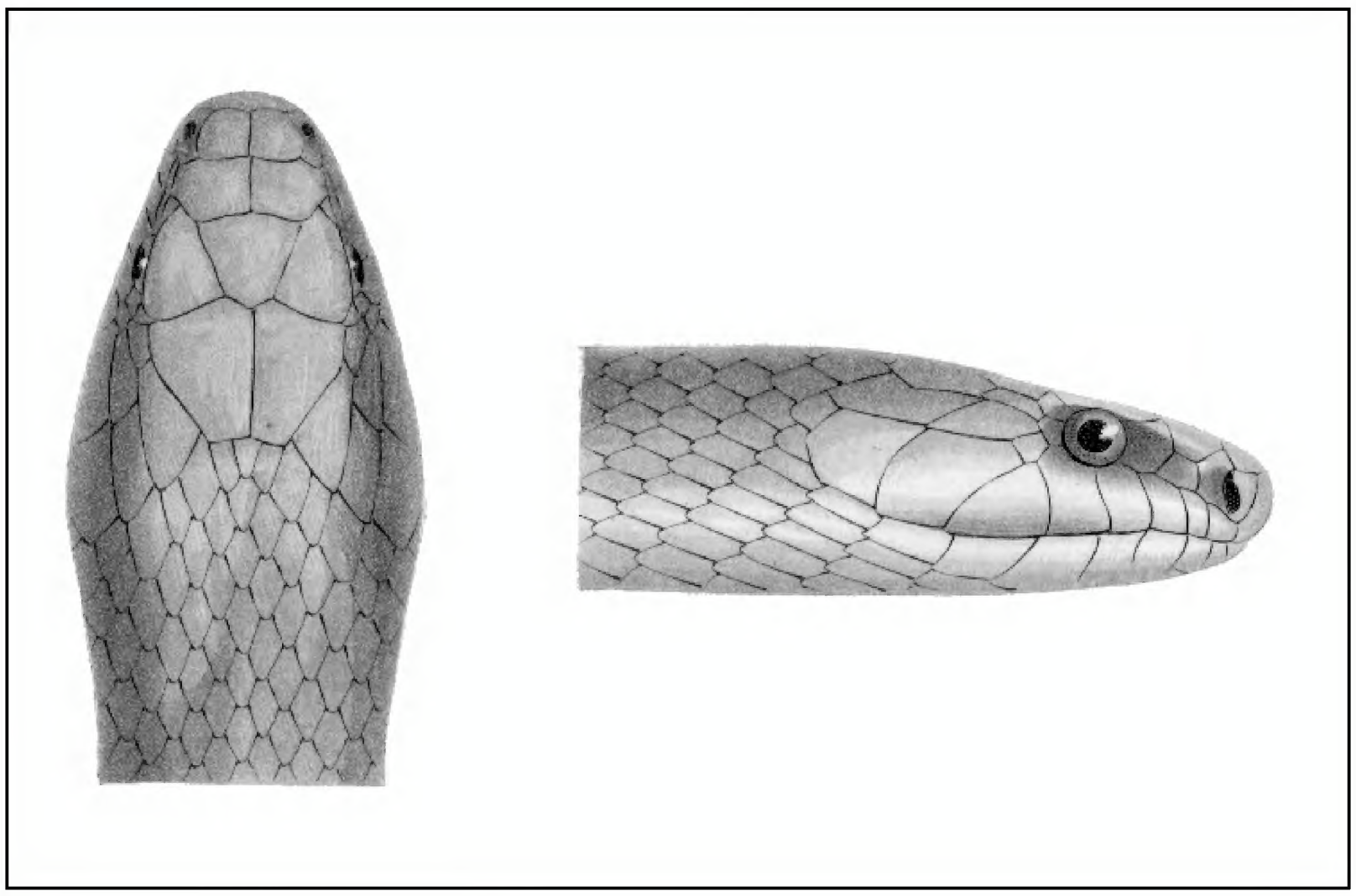
BULLETIN
of the
Chicago Herpetological Society

Volume 44, Number 4
April 2009



BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY
Volume 44, Number 4
April 2009

Critical Thinking about Ball Pythons: The Pythonophilia of the Barkers . . . . . David Chiszar and Hobart M. Smith 53

A Note on Predation of the Greater Siren (*Siren lacertina*) . . . . Christopher M. Schalk, Brian A. Crawford and Thomas M. Luhring 56

I Know They're Out There—I Can Hear Them Breeding! . . . . . Rob Arlen 57

What You Missed at the March CHS Meeting . . . . . John Archer 61

The Tympanum . . . . . Sean McCarthy 64

Herpetology 2009 65

Unofficial Minutes of the CHS Board Meeting, March 13, 2009 67

Advertisements 68

Cover: Cribo, *Drymarchon corais*. Drawing from *Essai sur la Physionomie des Serpens* by Hermann Schlegel, 1837.

STAFF

Editor: Michael A. Dloogatch—madadder0@aol.com
Advertising Manager: Ralph Shepstone

2009 CHS Board of Directors

John Archer, President
Jason Hood, Vice-President
Andy Malawy, Treasurer
Cindy Rampacek, Recording Secretary
Deb Krohn, Corresponding Secretary
Aaron LaForge, Publications Secretary
Mike Dloogatch, Membership Secretary
Dan Bavirsha, Sergeant-at-Arms
Rick Hoppenrath, Member-at-Large
Linda Malawy, Member-at-Large
Brad Trost, Member-at-Large
Jenny Vollman, Member-at-Large

The Chicago Herpetological Society is a nonprofit organization incorporated under the laws of the state of Illinois. Its purposes are education, conservation and the advancement of herpetology. Meetings are announced in this publication, and are normally held at 7:30 P.M., the last Wednesday of each month.

Membership in the CHS includes a subscription to the monthly *Bulletin*. Annual dues are: Individual Membership, $25.00; Family Membership, $28.00; Sustaining Membership, $50.00; Contributing Membership, $100.00; Institutional Membership, $38.00. Remittance must be made in U.S. funds. Subscribers outside the U.S. must add $12.00 for postage. Send membership dues or address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago, IL 60614.

Manuscripts published in the *Bulletin of the Chicago Herpetological Society* are not peer reviewed. Manuscripts should be submitted, if possible, on IBM PC-compatible or Macintosh format diskettes. Alternatively, manuscripts may be submitted in duplicate, typewritten and double spaced. Manuscripts and letters concerning editorial business should be sent to: Chicago Herpetological Society, Publications Secretary, 2430 N. Cannon Drive, Chicago, IL 60614. **Back issues** are limited but are available from the Publications Secretary for $2.50 per issue postpaid.
Visit the CHS home page at <http://www.Chicagoherp.org>.

The *Bulletin of the Chicago Herpetological Society* (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society, 2430 N. Cannon Drive, Chicago IL 60614. Periodicals postage paid at Chicago IL. **Postmaster:** Send address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago IL 60614.

Copyright © 2009.

Bull. Chicago Herp. Soc. 44(4):53-55, 2009

Critical Thinking about Ball Pythons: The Pythonophilia of the Barkers

David Chiszar
Department of Psychology
University of Colorado
Boulder, CO 80309

Hobart M. Smith
Department of EEBiology
University of Colorado
Boulder, CO 80309

This article is not a book review in the usual sense, as that job has already been done (e.g., Barten, 2006). Instead, we concentrate on only one aspect of the Barkers' (2006) book on ball pythons—the hypotheses they offer as guides for future thinking and research. Our view is that the book is a goldmine of ideas, and this might be for the general herpetological reader (who is not necessarily a pythonophile) the best and most enduring aspect of the book. We certainly do not mean to denigrate the value of designer morphs and the associated nomenclature or breeding technology. These matters have their own very obvious values, aesthetic as well as monetary, and they have become important parts of common parlance within the herpetocultural industry. On the other hand, we are absolutely convinced that there are additional reasons to own and read this book. These reasons constitute the motivation for the present analysis.

While every chapter in the book gave us issues to think about (i.e., hypotheses), an attempt to list all of these ideas would create an article nearly as long as the book. So we have elected to focus on one representative chapter (The physical ball python, chapter 3, pp. 18-33), with the understanding that any of the 20 chapters could have been selected. Indeed, it is probable that other readers would have focused on other chapters, which would yield different sets of hypotheses. The important point is that all of the chapters contain their nuggets; and, chapter three is simply one example of auriferous ground.

Another item to keep in mind is that even within chapter three there are plenty of ideas besides the ones we list below. Our goal has not been to be exhaustive but to be illustrative. Hence, we picked out ideas that were particularly interesting to us, recognizing that other readers might seize upon different components of the chapter. This is testimony to the richness of the lodes within this book. We hope that in what follows you will experience some of the pleasures and fascinations we have found in these digs. In each of the numbered paragraphs below a different hypothesis is discussed, usually along with ideas about how they could be tested. All of these hypotheses were explicitly or implicitly suggested by the Barkers. Page numbers in parentheses all refer to Barker and Barker (2006).

1.) "Ball pythons have one of the most complicated patterns found among the pythons, and there exists a great deal of individual variation of appearance." (p. 19) We counted in a later chapter (pp. 56-67) a total of 57 wild morphs, many of which are known to be heritable, raising the question of whether or not this variation has adaptive significance. Although it is difficult to imagine albino or piebald morphs having survival value, especially in Africa, some of the other wild morphs might represent local adaptations. Alas, as the authors point out, the precise geographical origins of most imported ball pythons are unknown; therefore, we cannot begin to correlate pattern variation with geography or environmental characteristics. Yet, this remains an interesting topic, particularly since we now have a discriminating vocabulary for a large number of wild morphs that can aid field workers in making reliable diagnoses. At the very least we must learn the relative frequencies of the various wild morphs as an initial step toward discovering which, if any, might be more than genetic anomalies.

2.) Antithetically related to the issue of adaptive significance of pattern variation is the possibility that pattern variation represents a consequence of ecological release. The geographic range of *Python regius* was once a predator-rich area, now depauperate in most predator species, especially mammalian and avian species (pp. 9-10). It is certainly possible that the disappearance of these predators has created a permissive situation for ball python pattern variation. We consider this the most likely hypothesis and one that might be tested by examining museum specimens accumulated since Seba's Thesaurus (1735) provided the first syntypic illustrations of this organism. In other words, explosive pattern variation in *Python regius* could be a relatively recent phenomenon.

3.) "According to Kluge (1993), ball pythons are a toothy species relative to most pythons." (p. 19-20) Surely it can be hypothesized that the number and size of teeth are related to diet, and perhaps to the fact that small/young ball pythons appear to specialize on birds (Luiselli & Angelici, 1998; Barker & Barker, p. 9). Examination of gut contents of museum specimens of the various python species, especially juvenile stages, will shed light on this problem.

4.) "Females are generally larger than males of similar ages." (p. 20) Aside from dietary and predatory pressures, a significant selective pressure acting on female size is fecundity (the longer the body, the more eggs or embryos can be accommodated). In males, however, combat is a determinant of body size. Species that lack male combat generally have small males; species that exhibit male combat have large males, larger even than females in many cases. Ball pythons clearly exhibit male combat (p. 31, 216), yet males do not grow larger than females, perhaps because there is an opposing selective pressure. A reasonable hypothesis is that dietary niche partitioning between the genders might restrict male prey and, hence, male size (Luiselli & Angelici, 1998).

5.) "We are not able to quantify our suspicions about the cognitive ability and potential of ball pythons, but in answer to questions that regularly are posed to us, we offer the following opinions: (a) ball pythons can and do identify their keepers, and they do so using vision or olfaction; (b) ball pythons can learn, and they remember learned behavior; (c) a ball python can identify another particular individual ball python, certainly by smell, but probably also by sight." (p. 22) Because there exists a growing

scientific literature supporting points (b) and (c), we will not dwell on these matters, but we will concentrate on the first point. It is probable that numerous ophidian species identify their keepers, but to our knowledge this has not yet been verified in an experiment specifically designed to demonstrate same. Hence, we have mainly anecdotes, some quite convincing, as are those provided by the Barkers for all three points. Advancing beyond the anecdotal level is nevertheless required in order to put the issue on a scientific footing. Years ago an undergraduate at our institution was hunting during Spring semester for an independent study (3 credit) project so as to permit graduation at the end of the term, and we pointed him in the direction of point (a). The idea was to place into several snake cages a small item of clothing worn by a person. Control snakes would get identical items that were clean (unworn and non-odoriferous). After living with these materials for a week or two, all cages would be cleaned, an operation that always elicits tongue flicking and cage exploration. All snakes would be placed into their respective clean cages along with the items of clothing that had previously been present. The hypothesis was that the now-familiar human chemical cues would exert a calming influence, reducing the dither of exploration, whereas the control snakes would exhibit no such effect. This notion was based on the fact that familiar chemical cues of other sorts had significant calming influences under identical conditions. To add a convincing touch, some snakes in the experimental and control conditions would receive clothing worn by an unfamiliar human, and these items should exert no calming effect. By the end of the semester the study was only partly complete, but with encouraging results. Alas, neither the student in question nor any other elected to finish this project, so we did not end up with a publishable demonstration. We mention the project here as a promising experimental design and, hence, as a candidate for interested persons (perhaps the Barkers) to pursue.

6.) " . . . the ability of a snake to flick its tongue to one side or the other creates a sense of olfaction that is directional." (p. 24) This may be only the beginning of a much larger story. Consider a snake tongue flicking along, say, the right margin of a trail. Sometimes the tongue or one of its tines will touch the trail, sometimes both tines will be off the trail. In the first case relevant chemical cues will be transported to the vomeronasal organs (VNO), in the second case no such cues will be brought to the VNO. Not only can this state of affairs give rise to directionality, it can also produce a sensory contrast effect, enhancing the detectability of the border. Contrast might be especially sharp when one tine touches a trail and the other is off the trail. Augmented perceptions arising from such contrast effects are well known in the visual and tactile systems of a few organisms commonly kept in laboratories, and we understand the neural mechanisms that mediate these phenomena. It is possible that similar mechanisms exist in the nasal and vomeronasal systems, as these mechanisms would contribute to more effective trail detection and following than would otherwise occur. To our knowledge, no one has yet tested this hypothesis either at the behavior or neural levels.

7.) "The ability of snakes to interpret and understand certain sounds and to respond with consistent predatory or defensive behavior suggests that auditory stimuli may play a larger role in the behavior of snakes than was previously realized (Young, 2003)." (p. 25) Clearly we are standing at the very threshold of a new frontier of ophidian research, and numerous hypotheses can be externalized from this quotation. One that the Barkers developed several paragraphs later was....."the answer to a commonly asked question about ball pythons is, 'Yes, your snake can hear you when you talk to it.'" (p.25) A possible functional significance of this capacity if it exists might be approached with a variation of the experiment proposed in point 5 above.

8.) "One example of the sensitivity to touch that has always impressed us is a ball python's apparent ability to distinguish between being touched by an inanimate object, such as something made from metal or glass, and being touched by something living." (p. 25) This passage made us think about bull snakes pressing mice against cage walls with rear sections of their bodies while the head was busy ingesting the first mouse. At the same time, the bull snakes ignore the snake hook, the tongs, or cage furniture. Separating the effects of thermal, chemical and tactile cues in these examples would provide some understanding of how the snakes manage such discriminations.

9.) "Most snakes have radiant-heat sensing thermoreceptors in their skin. These are associated with the occasional need to bask in warm places to mediate their body temperatures." (p. 25) See Barker (2008) for an interesting follow-up to this statement, with surprising results. Although there is no doubt about the existence of shuttling thermoregulation in some herps, we may have over-generalized this phenomenon.

10.) "De Cock Buning (1983) estimated that at 77 degrees Fahrenheit (25 degrees Celsius), a python could detect the heat signature of a medium-sized rat at 19 inches (48 cm). Molenaar (1992) estimates that a python can detect a rodent that is 18 degrees F (10 degrees C) warmer than the environment at a distance of 13 inches (28.8 cm)." (p. 26) While we know a great deal about the neurophysiology of infrared detection and processing, precise predictions such as these have not yet been tested at the behavioral level. These straightforward hypotheses can give rise to a wonderful program of research.

11.) "It's possible to bitten by an otherwise totally tame and inoffensive ball python if one inadvertently triggers this behavior by, say, putting a warm hand in front of the door of a hide box that is housing a sleeping ball python." (p. 27) Yep, and it is equally possible to be struck by a rattlesnake when offering a room-temperature euthanized mouse suspended from tongs held by a warm hand. Experimental analyses of these husbandry "rules of thumb" would be useful not only as confirmation of our suspicions but also as demonstrations of the fact that infrared cues can over-ride visual ones, at least under some conditions.

12.) "The two types of cones in the ball python eye occur at densities of 45,000 cones per square mm in the retina. . . . The visual pigments found in one of the cone types are very sensitive to ultraviolet light. . . . It is known that some animals, including snakes and lizards, leave scent trails with ultraviolet activities; some of the chemicals either absorb or reflect ultraviolet light (Alberts, 1998). . . . Sillman et al. (1997) demonstrated that garter snakes (*Thamnophis sirtalis*) have visual pigments and

ultraviolet sensitivity similar to that of ball pythons. They speculated that garter snakes might be able to visually perceive the pheromone trails left by other garter snakes. This speculation can be extended to ball pythons: prowling male ball pythons might be able to see pheromone scents left by females. Further, they pose the possibility that the prey of ball pythons may leave signs that are visible in ultraviolet light." (p. 27) These are straightforward and very exciting hypotheses. The trick will be to separate the effects of chemical and ultraviolet components of trails. We wonder if a snake would follow a well-marked ultraviolet trail that was made experimentally with chemicals containing no biologically significant information for the snake in question?

13.) "Pythons, usually in a state of excitement, will raise their tails, slightly open their vents exposing the erected scent gland papillae at each side of the vent, and spray twin thin steams of a viscous and, in some species more than others, very odiferous fluid. We have observed large python species such as Burmese pythons, *Python molurus bivitattus*, and reticulated pythons, *Python reticulatus*, to be able to spray these streams a little over eight feet (2.5 m) with what seems to us to have been considerable accuracy when we were the targets." (p. 28) Research methods have begun to be developed for studying the functional significance of cloacal secretions, long believed to be defensive (alarm) substances. While this belief is likely correct, experimental verification has been slow in coming, and once again we have more anecdotal than experimental evidence (although the latter is accumulating). There may turn out to be several modes of action associated with these secretions. See Schuett and Gillingham (1990) for a possibility that has not, to our knowledge, been considered in the present context. Further, the idea of accuracy in aiming the secretions is a new twist that needs to be explored.

14.) "The distal end of the ball python hemipenis is tipped with a pair of antenna-like structures called terminal awns. The function of the awns is unknown." (p. 29) Who knows what wonders await the researchers who pursue this fascinating question?

15.) "We have seen males attempt to combat females that previously were housed with other males." (p. 31) Likely this effect arises because of chemical cues rubbed by the first male onto the female, which then remain detectable when the female is placed with the second male. This would be fairly easy to demonstrate experimentally. Beyond this interesting point, however, lurks a larger theoretical question of potentially broad applicability—Could this be a purposeful act on the part of the first male in order to discourage subsequent mating by the female (cf. p. 216)?

Additional ideas from chapter three could have been listed, but enough have been discussed to confirm our earlier point about the richness of the Barkers' text. It can be read specifically for its herpetocultural value, but it can be appreciated at a transcendent level as well. This is why we value the book and why we wanted to write this article. Clearly, the Barkers have produced a piece of literature that enriches their readers in multiple ways and that might well advance the field we all love.

Literature Cited

Alberts, A. C. 1989. Ultraviolet visual sensitivity in desert iguanas; implications for pheromone detection. Animal Behaviour 138:129-137.

Barten, S. L. 2006. Book review: *Ball Pythons: the History, Natural History, Care and Breeding* by David G. Barker and Tracy M. Barker. Bull. Chicago Herp. Soc. 41(9):165-167.

Barker, D. G. 2008. Will they come in out of the cold? Observations of large constrictors in cool and cold conditions. Bull. Chicago Herp. Soc. 43(6):93-97.

Barker, D. G., and T. M. Barker. 2006. Pythons of the world, volume 2: Ball pythons: The history, natural history, care and breeding. Boerne, Texas: VPI Library.

de Cock Buning, T. 1983. Thermal sensitivity as a specialization of prey capture and feeding in snakes. American Zoologist 23:363-375.

Kluge, A. 1991. Boine phylogeny and research cycles. Miscellaneous Publications, Museum of Zoology, University of Michigan 178:1-58.

Luiselli, L., and F. M. Angelici. 1998. Sexual size dimorphism and natural history traits are correlated with intersexual dietary divergence in royal pythons (*Python regius*) from the rainforests of southeastern Nigeria. Italian Journal of Herpetology 65:183-185.

Molenaar, G. J. 1992. Anatomy and physiology of infrared sensitivity of snakes. Pp. 367-453. *In*: C. Gans and P. S. Ulinski, editors, Biology of the Reptilia, Volume 17, Neurology C, Sensorimotor integration. Chicago: University of Chicago Press.

Schuett, G. W., and J. C. Gillinghamt. 1990. The function of scream calling in nonsocial vertebrates: Testing the predator attraction hypothesis. Bull. Chicago Herp. Soc. 25(8):137-142.

Sillman, A. J., V. I. Govardovskii, P. Rohlich, J. A. Southard and E. R. Loew. 1997. The photoreceptors and visual pigments in the retina of the garter snake (*Thamnophis sirtalis*); a microspectrophotometric, scanning electron microscope, and immunocytochemical study. Journal of Comparative Physiology A 181:89-101.

Young, B. A. 2003. Snake bioacoustics: Toward a richer understanding of the behavioral ecology of snakes. Quarterly Review of Biology 78:303-325.

A Note on Predation of the Greater Siren (*Siren lacertina*)

Christopher M. Schalk [1,2], Brian A. Crawford [1] and Thomas M. Luhring [1,3]

The predators of the greater siren (*Siren lacertina*) have been poorly documented (Petranka, 1998). On 19 June 2008, a greater siren (approximately 200 mm in total length) was captured at Peat Bay, a 14.3-ha semi-permanent wetland located on the Department of Energy's Savannah River Site in Barnwell County, South Carolina, USA. The siren was placed in a 45.7 l cooler with two two-toed amphiumas (*Amphiuma means*) from the same wetland to be transported from the field to the laboratory. Upon opening the cooler in the laboratory, the siren had been consumed by one of the *A. means*. One of the amphiuma had a total length of 738 mm and weighed 460 g. The other amphiuma had a total length of 836 mm and weighed 788 g. *Siren lacertina* and *A. means* are frequently found together in wetlands throughout their overlapping ranges. However, interactions between these giant salamanders are not well known. While other investigators (Snodgrass et al., 1999; Luhring and Jennison, 2008) have suggested possible negative interactions (e.g. competition or predation) between the two species, no publishable accounts are available to confirm or refute these suggestions. This observation elucidates the fact that large *A. means* are able to consume smaller *S. lacertina*, and may be important predators of large aquatic salamanders such as sirens.

Salamanders were captured under scientific research permit number 56-2003 from the South Carolina Department of Natural Resources. Funding for this research was provided by the National Science Foundation (Awards DEB-0242874 and DBI-0139572) and the Savannah River Ecology Laboratory under Financial Assistance Award DE-FC09-96SR18-546 between the University of Georgia and the U.S. Department of Energy.

Literature Cited

Luhring, T. M., and C. A. Jennison. 2008. A new stratified aquatic sampling technique for aquatic vertebrates. Journal of Freshwater Ecology 23:445-450.

Petranka, J. W. 1998. Salamanders of the United States and Canada. Washington D. C.: Smithsonian Institution Press.

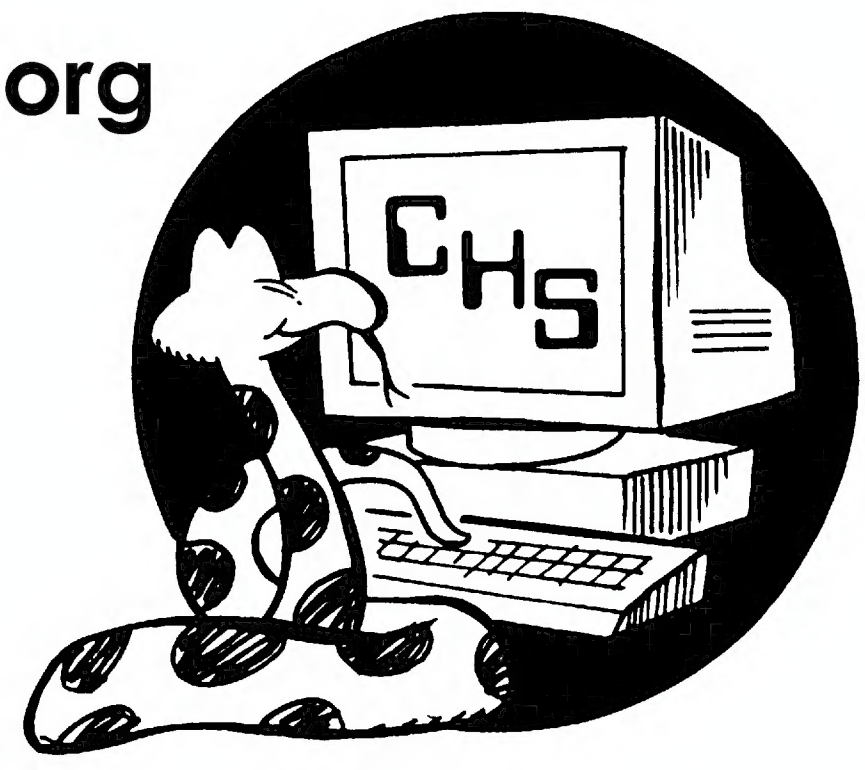
Snodgrass, J. W., J. W. Ackerman, A. L. Bryan, Jr., and J. Burger. 1999. Influence of hydroperiod, isolation, and heterospecifics on the distribution of aquatic salamanders (*Siren* and *Amphiuma*) among depression wetlands. Copeia 1999:107-113.

---

1. Savannah River Ecology Laboratory, Drawer E, Aiken, South Carolina 29808.
2. Present Address: Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, Texas 77843-2258 (email: cschalk@tamu.edu).
3. Present Address: Department of Biology, University of Missouri, Columbia, Missouri 65211-7400.

Next time you surf the WorldWide Web, crawl, run, slither, slide, jump, or hop over to the CHS web site!

www.chicagoherp.org



You'll find:

- **Announcements**
- **CHS animal adoption service**
- **CHS events calendar & information**
- **Herp news**
- **Herp links**
- **Meeting/guest speaker information**
- **Photos of Illinois amphibians & reptiles**
- **Much, much more!**

Chicagoherp.org is accepting applications for banner advertisements or links from herpetoculturists and manufacturers of herp-related products. Visit the site and contact the webmaster for details on how you can sponsor CHS!

Bull. Chicago Herp. Soc. 44(4):57-60, 2009

I Know They're Out There—I Can Hear Them Breeding!

Rob Arlen
331 S. David St. #4
Casper, WY 82601
robarlen@yahoo.com

Spring is here. If frogs have not already started calling in your area, they should be soon. In western Washington, Pacific treefrogs can be heard every month of the year; massive breeding choruses might begin early March and continue into the summer.

We listen to them for a variety of reasons—aesthetics, identification, and surveying.

Frogs and toads call usually for the purposes of courtship and territoriality (advertisement)—information meant for the ears of males and females of their species. Most field guides describe frog calls, but hearing them makes a much greater impression and is more meaningful. There are many recordings of frog and toad calls available today, most for the purpose of identification by sound, and some just for listening.

Many calls are also now available with the click of a mouse, including from some of these very recordings—don't be afraid to do some research. There are similar lists available on the web (www.nwf.org/frogwatchusa/content_sounds.cfm). Here I provide reviews and more information on how to find frog calls. For links to state guides and monitoring programs see cgee.hamline.edu/frogs/resources/internet.html#stateamphibians.

I encourage anyone interested to investigate this aspect of amphibian life. There are now many resources on the Web to get information, listen to calls, and even to get involved as a citizen-scientist. Many of these resources refer to opportunities to do amphibian monitoring as well as simply learning. Listen, learn, and enjoy!

Recordings for information:

***Sounds of North American Frogs*, Charles M. Bogert, 1998**, Smithsonian Folkways Recordings, SFCD 45060. Mail order: 955 L'Enfant Plaza, Ste 7300, MRC 953, Washington, DC 20560 www.folkways.si.edu/albumdetails.aspx?itemid=2421, reissue of Bogert's 1958 recording by the same title, Folkways Records, 701 7th Ave., NYC. American Museum of Natural History. Detailed booklet "The Biological Significance of Voice in Frogs" included. Old Folkways number FX6166.

Starts with a Florida chorus of 11 species of frogs and then dissects the chorus. The mechanics and types of calls and geographical variations are demonstrated. The narration and booklet provide a good amount of detail on amphibian voices. Introduced species such as the marine toad are covered as well. This covers many aspects of frog vocalization, but does not cover all North American species. I was very pleased to see that it has been released in CD format.

Regional recordings (for identification):

***Frog and Toad Calls of the Pacific Coast: Vanishing Voices*, Carlos Davidson, 1995**, Library of Natural Sounds, Cornell University Laboratory of Ornithology, 159 Sapsucker Woods Road, Ithaca, NY 14850 (607) 254-2404, $19.95 CD, $12.95 cassette, www.birds.cornell.edu/Shop/AudioGuides.html, 29 tracks, one hour, ISBN: 0-938027-15-8; CD includes 25 species for British Columbia, Alaska, Washington, Oregon, California, and northern Baja California.

Part 1 of this "audio field guide" is the reference section—individual calls by species with other sounds identified: spadefoot toads, true toads, tree and chorus frogs, true frogs, including introduced species. Part 2 deals with similar sounding species and explains the differences, e.g. by duration, quality, etc. In part 3 samples of calls are played and then announced, allowing the listener to practice identification. Part 4 contains 5 specially selected choruses, chosen for their beauty, with descriptions of the species in the book. As well as being a guide to the recordings, the book explains types of calls, and contains a breeding season chart and a bibliography of field guides, amphibian population declines and status, and calling biology. Two additional species are found in these states and provinces, but the tailed frog, *Ascaphus truei*, does not have a voice, and the boreal chorus frog, *Pseudacris triseriata maculata*, is included in the Rocky Mountain CD as it is found only in the far northeastern corner of British Columbia for the range of this recording.

***Frog and Toad Calls of the Rocky Mountains: Vanishing Voices*, Carlos Davidson, 1996**, Library of Natural Sounds, Cornell Laboratory of Ornithology, 159 Sapsucker Woods Road, Ithaca, NY 14850, (607) 254-2404, $19.95 CD, $12.95 cassette, www.birds.cornell.edu/Shop/AudioGuides.html, 82 tracks, one hour, ISBN: 0-938027-30-1; CD includes 38 species for Yukon, Northwest Territories, Alberta, Saskatchewan, Montana, Idaho, Wyoming, Colorado, Utah, Nevada, Arizona, and New Mexico. Also available as a cassette.

This recording is organized a little differently from the Pacific Coast version—there is a reference section containing the calls of individual species in the same taxonomic order, then a test section with samples of calls and species identification for testing. The book contains much of the same general information on frog and toad calls as is in the Pacific Coast recording, and the test section lists which recordings have the species for a particular group of states and provinces (for example Colorado and Utah species are covered in test recordings 4 through 26, or band 80). The numbering system in both recordings for book vs. the CD is a little confusing, but not difficult.

***The Calls of Frogs and Toads*, Lang Elliott, 1994**, Stackpole Books, 5067 Ritter Rd., Mechanicsburg, PA 17055, ISBN: 0-8117-2968-0, Compact Disc version suggested retail: $19.95 www.musicofnature.org/books/

This CD is a guide to calls of the 42 species of frogs and toads of eastern and central North America, arranged by family.

There is also a 48-page booklet with notes on the frog life cycle, call types, ranges, descriptions and data for each species and the recordings. Each species' call (usually < 1 minute) is introduced by its common and scientific name, then several samples of that frog's call are played, often 1 or 2 individuals and then a chorus. The 43rd track (32:18) is an introduction to the functions frog and toad calls - advertisement, release, rain, distress calls; calls of aggression (competition for a calling site), call alternation (2 males purposefully alternating their calls so that they can be told apart); and effects of size and temperature. There are also hybrids and some mixed choruses. Text for each species includes common name, scientific name, size, range, habitat, habits, and verbal description of calls. I recommend this as the most current and thorough for explaining frog calls, for the eastern half of the country.

***The Frogs and Toads of North America*, the latest from Lang Elliot, 2009**. This color book features all 101 species through North America, plus an audio CD. With coauthors Carl Gerhardt and Carlos Davidson, we might guess that this is a combination of some of the other recordings put together (www.musicofnature.org/books/). Although I have not reviewed this combination myself, a book and CD retail price of $19.95 would seem to be a good bargain.

***A Guide To Wildlife Sounds*, Lang Elliott, 2005**, Stackpole Books, 5067 Ritter Rd., Mechanicsburg, PA 17055, ISBN 978-0-8117-3190-4, www.musicofnature.org/books/

This book/CD combination presents the sounds of 22 mammals, 34 birds, 2 reptiles, 17 amphibians, and 25 insects. The amphibians are a subset of Elliot's 1994 publication (also available as cassette). The book has the common name, scientific name, a photograph, comments on "range and habitat" and "sound." This is an enjoyable introduction to a diverse selection of natural sounds. Having worked with alligators, I appreciated the inclusion of several types of their vocalizations, and rather enjoyed the owls, too!

***Voices of the Night*, Cornell University Laboratory of Ornithology, 1982**, subtitled *Calls of the Frogs and Toads of Eastern North America* (former subtitle *The Calls of 34 Frogs and Toads of the United States and Canada*), produced by Peter Paul Kellogg and Arthur A. Allen, published by Houghton Mifflin, Boston; (initially published in 1948), record number CH 1005, CD $12.95. www.birds.cornell.edu/Shop/AudioGuides.html

After a brief introduction, narration on this recording discusses each species with variations by size, habitat, and other factors. Other animal sounds are identified along with the frog calls. Calls are grouped by family beginning with hylids, and differences between families are discussed. The recording discusses *Hyla versicolor*'s slower trill (and twice the chromosomes) as compared to *H. chrysoscelis*. Also interesting is the note that in the green treefrog an advertisement call is changed into a warning call by trilling the call (this apparently happens in other species as well). Other observations such as the effect of size on calls are noted. Introduced species such as the marine toad, Cuban treefrog, and greenhouse frog are covered. Includes 36 (34 in the old edition) species in 5 families.

***Frogs of Tambopata, Peru*, Rex Cocroft, Victor R. Morales and Roy W. McDiarmid. 2001**, Cornell Laboratory of Ornithology, 159 Sapsucker Woods Road, Ithaca, NY 14850, (607) 254-2404, CD recording of frog calls, plus 27-p. booklet. $19.95. www.birds.cornell.edu/Shop/AudioGuides.html

Tambopata-Candamo National Park is in southeastern Peru, home of 81 species of frogs, 70 of which are recorded here. Some sound a bit like some of our North American frogs, but the recording offers a great variety of voices—trills, peeps, pulsating peeps, whines, moans—the area must be a paradise of sound when the rainy season starts! The booklet includes photos of the frogs.

***Florida Frogs and Toads*, Richard A. Bradley, 1978**, Florida State Museum, Gainesville, FL 32611, narrated by Linda Becker, foreword by Archie Carr. FSM-1.

Of the 30 species in Florida, the most common are on this record. Narration on this recording includes the species being demonstrated plus other frogs and/or birds in the background. Introduced species such as the marine toad are covered. Southern toad, oak toad, southern cricket frog, spring peeper, green treefrog (mating call and rain call), barking treefrog, pine woods treefrog, squirrel treefrog, southern gray treefrog, bird-voiced treefrog, little grass frog, Florida chorus frog, ornate chorus frog, eastern narrow-mouthed toad, bullfrog, pig frog, carpenter frog, bronze frog, southern leopard frog, Florida gopher frog are covered; and finally some mixed choruses. Apparently out of print. (See http://siris-libraries.si.edu/ipac20/ipac.jsp?uri=full=3100001~!114145!0#focus)

Other guides not reviewed:

Frogs of the Great Lakes Region (primarily Michigan) (517) 655-5349, www.naturediscovery.net/products.htm

Talking Toad and Frog Poster by Tom Johnson. This is advertised in the back of his book as being available from: Missouri Department of Conservation, P.O. Box 180, Jefferson City, MO 65102-0180. Covers 20 species of Missouri toads and frogs (omits the northern leopard frog).

The Calls of Kansas Frogs and Toads by Keith Coleman, with narration by Joseph T. Collins, 1998, cassette, available from Kansas Heritage Photography, 1-785-836-2119 or email: wakarusa@cjnetworks.com

Calls of Minnesota's Frogs and Toads produced by Lang Elliott for the Minnesota Frog Watch, 1998. Available for $12.00 from Minnesota Frog Watch, MS-A1760, Hamline University, Graduate School, 1536 Hewitt Ave., St. Paul, MN 55104-1284.

A Guide to Night Sounds by Lang Elliott, 1992, Stackpole Books, 5067 Ritter Rd., Mechanicsburg, PA 17055, ISBN 0-8117-3164-2, www.musicofnature.org/books
CD with 72-page booklet. $19.95

Maine Amphibians and Reptiles edited by Malcolm L. Hunter, -Jr., Aram J. K. Calhoun and Mark MacCollough, 1999.. Orono, Maine: University of Maine Press. 252 pp. (includes CD with anuran calls) ISBN 0-89101-096-3 (phone number for University of Maine Press: 207-581-1408; Zoo Book Sales has it listed

in current catalogue for $19.95). The CD portion is narrated by Lang Elliott and includes recordings of 10 species (9 known from Maine, one of possible occurrence): spring peeper, wood frog, northern leopard frog, pickerel frog, American toad, gray treefrog, green frog, bullfrog, mink frog, Fowler's toad. The next section includes various mixed choruses, followed by a "test section" in which members of mixed choruses are identified after the recording.

Calls of New Jersey Frogs and Toads and *Field Guide to Reptiles and Amphibians of New Jersey* by Vicki Schwartz and David M. Golden. www.njfishandwildlife.com/prod_herpguide.htm (This also has an online guide.)

*Calls of the Wild * Vocalizations of Georgia's Frogs*, CD produced by the Georgia Department of Natural Resources, Wildlife Resources Division (DNR/WRD) with the help of Georgia frog expert and talented nature recording artist Walter Knapp. Presenting the unique calls of all 31 species, this CD will introduce the public to the wonderful and often bizarre calls of Georgia's frogs and toads. GA DNR/WRD, Nongame Wildlife & Natural Heritage Section, 116 Rum Creek Drive, Forsyth, GA 31029, ATTN: Georgia's "Calls of the Wild" CD, or for more information call 478-994-1438

Frogs and Toads of Texas, Texas Parks and Wildlife Division Wildlife Diversity Program, 1-800-792-1112 x7011.

Aesthetic recordings:

Frog Talk, Robert W. Baldwin, 1990, NorthSound, 58:34 minutes. NorthWord Press, Inc., P.O. Box 1360, Minocqua, WI 54548, (800) 336-5666, 58:34 total time, NSCD 02472:
This CD has two tracks, 29:20 and 29:14 long, with no narration and only a 2-paragraph commentary (with a quote from Henry David Thoreau). The choruses are dominated by spring peepers, with wood frogs, leopard frogs, green frogs, pickerel frogs, mink frogs and gray treefrogs audible in the background. (see www.amazon.com/Frog-Talk-Nature-Sounds/dp/B000000JSS)

Frog Heaven (also released as *Frogs in Paradise*), Richard Hooper, 1992, Nature Recordings, World Disc Productions, P.O. Box 2749, Friday Harbor, WA 98250, 360-378-3979, 800-228-5711, 60:45 total time, CDN 17. There is no narration on this CD (also available as cassette); it is a series of frog choruses ranging from the Everglades to Sri Lanka to Pacific treefrogs on the San Juan Islands in Washington. There are two tracks (30:15 & 30:30. The CD lists the frogs heard, however only by general common names (pig frogs, wood frogs, peepers, bullfrogs), or habitat type such as "stream frogs" or "night frogs" in each chorus, and the elapsed time. (see www.amazon.com/Nature-Recordings-Frog-Heaven/dp/B0000018ER)

The Relaxing Natural Sounds of Caribbean Tree Frogs, Caribbean Dawn Nature CD, $14.99,
www.capturedambiance.com/AcousticAmbiance/index.html

How to get them:

The Cornell Laborator of Ornithology has both Davidson recordings, as well as *Voices of the Night* and *Frogs of Tambopata, Peru*.

www.birds.cornell.edu/Shop/AudioGuides.html (see also Nature Mall)

NatureSound Studio, PO Box 84, Ithaca, NY 14851-0084, publishes *The Calls of Frogs and Toads* by Lang Elliott.
www.naturesound.com/guides/pages/frogs.html

The Smithsonian Institution publishes Charles Bogert's *Sounds of North American Frogs*.
www.folkways.si.edu/albumdetails.aspx?itemid=2421

Nature Mall retails several of these recordings:
www.onlinenaturemall.com/birdsongs/frogs.htm

Check Amazon.com (www.amazon.com); search for "frog calls" (please note that if you enter Amazon by way of the icon on the CHS home page, the CHS will benefit financially)

Calls on the web:

From Lang Elliott, a selection of eastern calls:
www.naturesound.com/frogs/frogs.html

From FrogwatchUSA, list of recordings:
www.nwf.org/frogwatchUSA/content_sounds.cfm

From the U.S. Geological Survey:
www.pwrc.usgs.gov/frogquiz/index.cfm?fuseaction=main.lookup

Hawai'ian frogs (introduced):
www.hear.org/AlienSpeciesInHawaii/species/frogs/index.html#frogcalls

National lists:

www.nwf.org/frogwatchUSA/frogs_state.cfm
Click on a state to get a species list. Some have clickable calls

www.umesc.usgs.gov/terrestrial/amphibians/armi/frog_calls.html
Assorted calls of North American species

http://igsaceeswb00.er.usgs.gov:8080/mapserver/naa/
The National Amphibian Atlas

Local/state calls:

www.midwestfrogs.com
An evolving "webumentary" sponsored by the Chicago Herpetological Society

www.habitatproject.org/default.asp?cid=20
Chicago Wilderness Habitat Project, links to calls as mp3 files

ndis.nrel.colostate.edu/herpatlas/coherpatlas/
Colorado herp atlas with online calls

wwknapp.home.mindspring.com/GAFrog.Toad.html
The frogs and toads of Georgia. Organized by family, click for a description and picture. Calls are available as .rpm files. Also for Georgia: "Calls of the Wild * Vocalizations of Georgia's Frogs" CD produced by the Georgia Department of Natural Resources, Wildlife Resources Division, with the help of Georgia frog expert and talented nature recording artist Walter Knapp. This CD will introduce the public to the calls of all 31 of Georgia's frogs and toads. Order by mailing a check payable

to Wildlife Conservation Fund for $15.36 each CD (includes $12.95 CD cost, $0.91 sales tax * Georgia residents only * and $1.50 for shipping/handling) to: GA DNR/WRD, Nongame Wildlife & Natural Heritage Section, 116 Rum Creek Drive, Forsyth, GA 31029, Attn: Georgia's "Calls of the Wild" CD, or for information call 478-994-1438.

www.dnr.state.il.us/lands/education/classrm/aquatic/frogs_toads.htm
Calls of Illinois frogs

www.in.gov/dnr/fishwild/3325.htm
Calls of Indiana frogs

bioweb.wku.edu/froglogger/default.html
Frogs and Toads of Kentucky—species by county with calls

www.herpnet.net/Iowa-Herpetology
Iowa frogs

cgee.hamline.edu/frogs/science/mnfrogs.html
www.pca.state.mn.us/kids/frogsforkids.html#mnfrogs
Minnesota frogs

darkwing.uoregon.edu/~titus/herp/herp.html
Oregon Herps, with some calls

tennessee.gov/twra/tamp/frogs.html
The Frogs and Toads of Tennessee, Tennessee Department of Environment and Conservation. A guide to the species, including pictures; plus .wav and .au files to listen to the calls

www.zo.utexas.edu/research/txherps/frogs/calls.html
Clickable calls of Texas frogs

www.marshall.edu/herp/pages/anurans.htm
West Virginia

Canada:

www.naturenorth.com/spring/sound/shfr2snd.html
Calls of Manitoba frogs

www.trentu.ca/biology/Trent_Frogs/Homepage.htm
Calls of Ontario frogs

Other calls:

amphibiaweb.org/lists/sound.shtml
Clickable calls from around the world

animaldiversity.ummz.umich.edu/site/topics/frogCalls.html
mostly North American species

www.amnh.org/exhibitions/frogs/frogsounds/
Frogs: a chorus of colors; assorted frogs (calls of some frogs of Madagascar)

allaboutfrogs.org/weird/general/songs.html
From frogland, an assortment of calls

www.msichicago.org/scrapbook/scrapbook_exhibits/frogs/index.html
Museum of Science and Industry (Chicago)—assorted calls

www.birdnote.org/birdnote.cfm?id=46
KPLU (NPR Tacoma, Washington)—Pacific treefrogs

Other websites of interest:

www.chicagoherp.org/index.php?link=herpsofil#frogs

www.habitatproject.org/default.asp?cid=19
Chicago Wilderness Habitat Project

ndow.org/wild/animals/facts/index.shtm#amphibians
Nevada amphibians (no calls)

cgee.hamline.edu/frogs/resources/internet.html#stateamphibians
Index of state amphibians and monitoring programs

ufwildlife.ifas.ufl.edu/frogs_and_toads.shtml
Florida frog identification (no calls)

gf.state.wy.us/Fish/AAC/Herpefauna/index.asp#
Wyoming amphibians (no calls)

www.parcplace.org
Partners in Amphibian and Reptile Conservation

research.amnh.org/herpetology/amphibia/index.php
World amphibian species on-line reference

herplit.com/herplit
Herplit database

www.cnah.org/
Center for North American Herpetology

http://pbin.nbii.gov/herps/index.asp
USGS Pacific Basin Information

www.livingunderworld.org
A web project about Amphibians

www.amphibiaweb.org
Amphibiaweb database

www.frogs.org/library/itemsbysubject.asp?SubCategoryID=4
Resource for kids

www.ssarherps.org
Society for the Study of Amphibians and Reptiles

www.herpconbio.org
Herpetological Conservation and Biology

www.snwvb.org
Society for Northwestern Vertebrate Biology

www.natureserve.org/index.jsp
Natureserve database

www.whose-tadpole.net
European tadpoles

www.amphibians.org
FrogLog is available here

herpcenter.ipfw.edu/outreach/MWHabitatGuide/&2
Habitat guides for midwestern amphibians

amphibien.bund-naturschutz.de/faszination.html
German amphibians

www.iucnredlist.org/amphibians
Resource for amphibian declines

Bull. Chicago Herp. Soc. 44(4):61-63, 2009

What You Missed at the March CHS Meeting

John Archer
j-archer@sbcglobal.net

I got on the elevator for the March meeting with a couple of other members and someone I didn't recognize. He had black hair and a short, neatly trimmed, black beard that made him look like a Russian czar, or at least how I think a Russian czar should look. There was a backpack thrown over his shoulder and he looked young enough that I guessed he might be a new member, so I mentioned that I didn't think I'd met him before. I generally phrase that statement cautiously because all too often I genially greet someone I think I've never met only to find out he's lived with me for twenty years or so. Wait. That's my son. But it happens with other people, so I always have to be cautious about my approaches to unfamiliar faces. It's not easy losing that razor-edged mind that I never actually had.

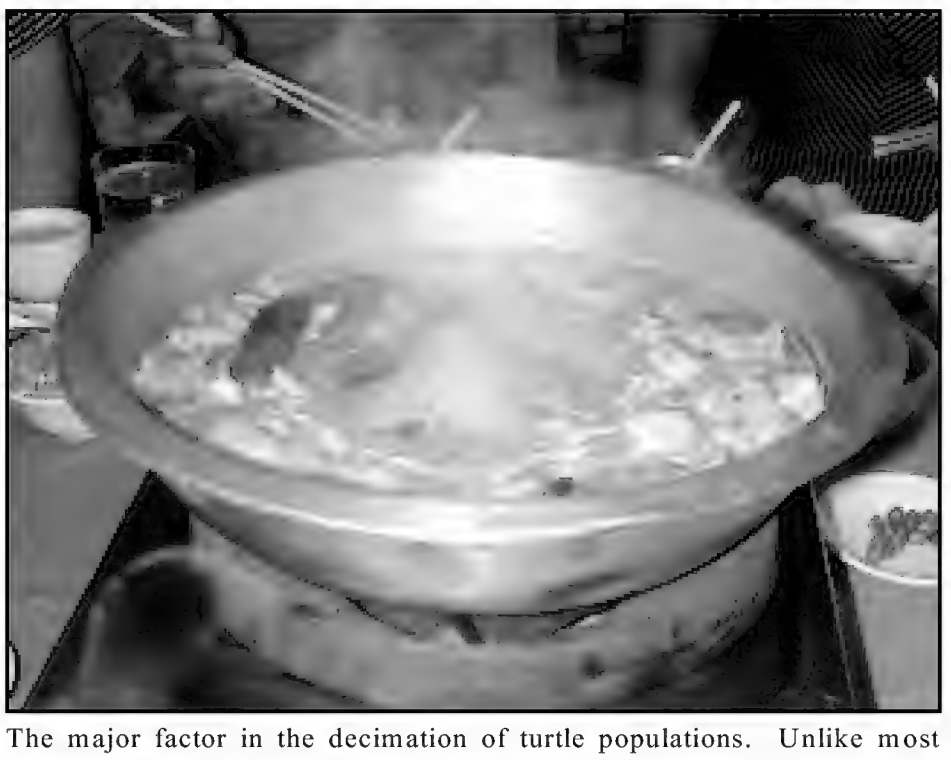
Dr. James F. Parham. Photograph by Dick Buchholz.

He politely and with good humor introduced himself as Jim Parham. Using that razor-edged mind I immediately identified him as our speaker for that night. I had studied a little about him so I might properly introduce him, and immediately thought that he was way too young to have done everything that I had read about him. Of course I was wrong, but he still looks too young to me. Jim Parham grew up in Rhode Island and graduated (summa cum laude) from the University of Rhode Island in 1996 with a B.S. in geology and achieved a Ph.D. in integrative biology from the University of California, Berkeley, in 2003. He's interested in the biodiversity and evolution of reptiles, primarily in how human activities impact diversity, distribution, and phylogenetic relationships. He has ongoing research projects in the Middle East, the Caribbean, China and the U.S. and has traveled to all those countries and more. At dinner he mentioned that he had traveled outside the U.S. nine times last year alone! Google him and he pops up as an author on dozens of papers and his collaborators read like a United Nations members' list, with Armenia, Iran, Russia, Turkey and China represented. He did a dissertation in paleontology and post-doctoral work in genomics and bioinformatics. His subject for the night's presentation was "Historical and Ongoing Changes to Turtle Diversity and Distributions: How Human Activities Impact Our Ability to Reconstruct Natural Patterns of Turtle Diversity (through extinction), Distribution (through extirpation and exotic introduction), and Phylogenetic Relationships (through genetic pollution)."

He started out with evidence for the popularity of turtles contrasted with how most people view reptiles such as snakes. The majority of us find turtles cute and they are the most beloved of reptiles. Prehistoric people had strong cultural attachments to turtles and many cultures still place them high in the mythological pantheon, but unfortunately not high enough to protect them from human activities. Although turtles have been used for food and depleted by other human activities for thousands of years, only in the last thousand years or so have turtles come under more pressure from humans than most populations can handle. And unlike almost every other animal threatened by our exponentially expanding population, habitat loss is not the greatest threat to turtles. It is consumption by humans that is fueling the crisis.

Jim did point out other threats to turtles. Perhaps surpris-

Jim Parham in Semnan Province, Iran. The tortoise is *Testudo horsfieldii*. It's commonly called the Russian tortoise, but Jim thinks that "Central Asian steppe tortoise" provides more accurate information.



The major factor in the decimation of turtle populations. Unlike most animals in danger of extirpation, habitat loss is not the main problem for turtles.

Just one of more than a thousand turtle farms trying to supply China's demand for turtles. The heavily guarded farms are part of a billion-dollar industry. They contribute more to the problem than they solve.

Something that has to be taken into account: one man's crisis is another man's living. Ending exploitation will often have a human toll.

Jim trapping *Trachemys terrapen*, the Jamaican slider, in areas of Jamaica that most visitors probably don't see.

In 2003 the declared exports of the red-eared slider (*Trachemys elegans*) from the U.S. were over three million!

The red-eared slider (*Trachemys elegans*) is Jim Parham's favorite turtle. Wherever he goes he finds them. A little piece of home. The babies are gorgeous and the adults ubiquitous. What's not to love?

ingly, these include turtle races. With a google map and one pinpoint he showed where the first turtle race was held near Ponca, Oklahoma, in 1924. He then switched to a map showing pinpoints for the nearly 500 races held in the U.S. today. These races probably involve nearly 10,000 turtles, many of which receive inadequate care and are released wherever the organizers feel like releasing them. Turtle races were not dangerously detrimental in 1924 with one race, but with the U.S. human population triple what it was in 1924 and the number of current races, a once easily sustainable use of turtles is now a major threat.

The same may be said of many other uses of turtles and turtle products. The sale of Native American crafts has not yet increased enough to be a major threat to turtle populations, but as demand increases with human population increase, this too will have greater negative consequences. When the harvest of hawksbill turtles was banned internationally, some bekko artists in Japan were so devastated that they took their own lives. Yet this use of the turtles' shells and the destruction of coral reefs has led to severe declines, and the ban was certainly warranted. And habitat destruction is still a very real threat when wetlands and lakes are drained. Just adding a road to an otherwise good habitat can cause huge declines in the resident turtle population, and studies have shown that this type of intrusion affects the females to a greater extent than the males. Jim also mentioned subsidized predators, including our old friend the raccoon, but feral pigs are responsible for the destruction of huge numbers of turtle nests worldwide. Almost everywhere that Jim travels he hears from the local elders, "There used to be many turtles here."

But the main threat is the use of turtles for food by humans. According to the fossil records, tortoise species have suffered the most from the arrival of humans. *Hesperotestudo*, a giant tortoise—the most heavily armored tortoise that ever lived—co-existed with humans in the southeastern U.S. until about 7000 years ago. While there is no definitive evidence of Native Americans causing its extinction, *Hesperotestudo* fossil remains have been found associated with early Holocene archeological sites that indicate they were burned and butchered. Given the effect of humans eating turtles, it certainly appears likely that consumption drove these tortoises to extinction.

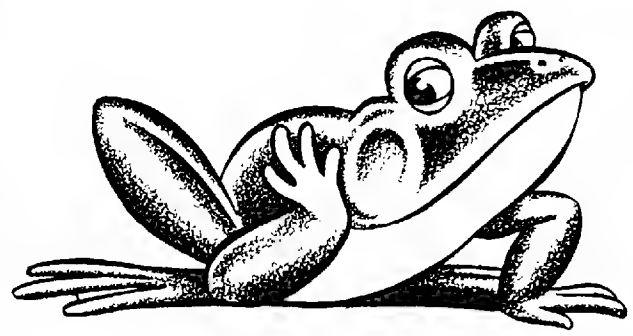
The major threat to the world's turtles is centered in southeast China, where the consumption of all types of wildlife has a long tradition. As the Chinese economy began to grow in the 1980s, the growing middle class increased the demand for turtles to eat, and in the 1990s the Asian Turtle Crisis became well known throughout the world. In Asia a turtle is a commodity, and rarely is one encountered in the wild without being collected. That practice has threatened all wild Asian turtle populations and is now threatening turtles around the world. One would think that turtle farming would be the ideal answer to providing turtles for food, but Jim found evidence that turtle farms in China are doing more harm than good. The estimated 1000 Chinese turtle farms are a billion-dollar, largely unregulated industry. The farmers have the money to continue to buy wild-caught turtles not only for their perceived greater fecundity, but also because wild-caught turtles will sell for a higher price. In addition, escapes and deliberate releases tend to spread exotic turtles all over the world, as has happened with the red-eared slider (*Trachemys elegans*). In 2003 the declared exports of just that species from the U.S. were over three million. That number has declined, primarily in response to the competition from Chinese turtle farms.

Jim wasn't going to leave us without his recommendations to mitigate this crisis. More fieldwork would provide valuable distribution data and the resources for genetic studies, and, where feasible, we need to provide museums with specimens that can aid researchers in the future. Jim also emphasized that dissemination of information through the internet can distribute critical data to a large audience in a very short period of time. He mentioned three web sites that are doing this now: the ICUN/SSC Tortoise and Freshwater Turtle Specialist Group backed by five of the most active turtles organizations (http://www.iucn-tftsg.org/), the EMYSystem (http://emys.geo.orst.edu/) and Herpnet (http://www.herpnet.org/), that provide museum specimen data, and EOL, the Encyclopedia of Life, the attempt to develop a web page for species on earth (http://www.eol.org/). Check them out.

Jim was engaging, enthusiastic, and encyclopedic in his knowledge of turtles. He spoke well and had photographs that captured his points. He gave a terrific presentation, but at the conclusion I felt as I had at the conclusion of Mike Lannoo's speech: too many animals in too much peril. Humans are probably included.

The Tympanum

Re: Bull. Chicago Herp. Soc. 42(6):92-95, 2007, Call to Outlaw the Use of Tongs for Catching and Handling Deadly Snakes



As the owner of one of the many companies that Mr. Hoser has attacked in this letter which has just come to my attention, I thought it prudent to set a few tings straight. In 2005 I purchased this business from Mr. Watherow (also attacked in the letter). Mr. Hoser refers to me as his disciple, this could not be farther from the truth. The business arrangement was in my benefit to purchase an existing demonstration business as it already had a client base which we could and have developed further.

The tiger snake that has been referred to as an image that was on my site in 2007 demonstrated a snake that had been a part of an ongoing personal study into the effect of tongs on snakes. We have not and will not produce a paper on this, simply due to the fact that the only person witnessing the capture of each snake was myself, any data collected cannot be verified, hence it is a personal study and a series of amateur observations. Our objective is to ensure that the tongs that we use are the safest available on the market today. The picture was removed from the site in early 2007 when we did an upgrade of the website.

The stress that is demonstrated when a snake bites the offensive item that is grabbing it is directly related to the stress at the time, not the tools used. We have seen on many occasions when scale counting, that a snake will attempt to bite when restrained in polycarbonate tubing, this is not a pain response, but a stress response.

The only tongs that Snakehandler will promote for the use with venomous snakes in Australia is Midwest Gentle Giant Tongs, Mr. Hoser's claim of a snake catcher who used Pilstrom tongs on a snake in Shepparton, Victoria, was trained by either Mr. Watherow or myself cannot in any way be proven, given that in Australia at the time there several different people teaching courses, many of which taught the use of tongs. Needless to say that this snake catcher has never been identified, as such no one can ascertain who his instructor (if any) was.

Snakehandler policy on teaching the use of tongs is simple: Tongs are a tool to be used as a last resort along with pinning, look at all other alternatives before attempting either technique due to the increased stress response from the animal and the potential risk of damage. This is emphasized in our training by the fact we only use rubber snakes to practice tonging on; we do not allow people to use live snakes as this technique has too many possible risks that should be avoided if possible.

What a person does after a training course cannot be attributed to the trainer, it is the individual. Mr. Hoser continues his attack by attempting to raise the issue of experience. I have not been in the media for the last three decades with reptiles, I have owned reptiles in one form or another since childhood, most of the time not realizing that a permit is required.

His statement that the prevention of cruelty to animals act 1986 9(1)c effectively bans the use of tongs for handling venomous snakes is outrageous. The act clearly states . . . : "A person who: does or omits to do an act with the result that unreasonable pain or suffering is caused, or is likely to be caused, to an animal."

This statement will also effectively ban the use of firearms, as they can wound an animal if not done correctly, fishing would be banned as there is the potential to gut hook a fish and injure it. He has used the loose wording of the act to his own benefit again!

The reference of the red-bellied black snake which was injured due to incorrect pinning technique is still on our website www.snakehandler.com.au and has NEVER been removed, it actually shows a snake in the beginning stages of a slough. This photograph was taken during a day of photography of captive bred animals, none of which have ever been tonged or pinned. I mention tongs again as in the past week Mr. Hoser has now been claiming on a reptile forum www.australianreptilesociety.com that the injuries are caused by tongs. This will clearly demonstrate that Mr. Hoser is willing to twist situations to assert his political rants and current target.

I wish to also add that Mr. Hoser has made several statements on National radio that clearly show his intent to cause mischief, one such statement reflects his ability to have letters such as this published:

Raymond Hoser: You've only got about a one in three chance of any given letter getting printed. So if you can send a given letter to a number of publications where the letters editors preferably don't contact one another, as in like not newspapers from the same company, you can quite often increase your chances of getting printed. So if for example you send a single letter to six different newspapers, you may in fact end up seeing it published in two. Now that's one rule.

Another thing which is very distressing but is fundamentally true, is that the more stupid and idiotic and ridiculous and moronic your letter is, the higher the chances of it being published. If you present a well-written, constructive piece, it will probably be ignored. If you write absolute crap they're probably going to print it. And the record speaks for itself.

Robert Bolton: Now you signed your letter to *The Herald-Sun* "Wayne Kerr."

Raymond Hoser: That's correct.

With this in mind I wish to the final statement:

If my company was in any way engaged in activities that were deemed to be cruel we would have been shut down. We have had people from the Royal Society for the Protection of Animals, animal control officers, Animal Welfare offices and members of state and federal police complete our courses, they have been taught the use of tongs and pinning and we have never had one question raised as to the techniques taught. The course is now the only course in Australia with Nationally Recognized Training, endorsed by the Department of Education, Employment and Workplace Relations. Yours truly, **Sean McCarthy, Director, Snakehandler Pty. Ltd., PO Box 262, Hastings, Victoria 3915, Australia. sean@snakehandler.com.au**

Herpetology 2009

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

RAINBOW BOA TAXONOMY

P. Passos and R. Fernandes [2008, Herpetological Monographs 22:1-30] note that the *Epicrates cenchria* complex is endemic to the Neotropical region, occurring in mainland portions of Central and South America. The taxonomic status of the nine currently recognized subspecies (*E. c. alvarezi*, *E. c. assisi*, *E. c. barbouri*, *E. c. cenchria*, *E. c. crassus*, *E. c. gaigei*, *E. c. hygrophilus*, *E. c. maurus* and *E. c. polylepis*) were evaluated based on external morphology, osteology and hemipenis characters. Results obtained through quantitative and qualitative analyses support the recognition of *E. alvarezi*, *E. assisi*, *E. cenchria*, *E. crassus* and *E. maurus* as distinct species based on statistically robust delimitation of species boundaries.

BEASTLY BONDAGE: THE COSTS OF AMPLEXUS

H. Bowcock et al. [2009, Copeia 2009(1):29-36] note that reproductive activities can impose fitness costs as well as benefits. In most frog species, males clasp females for prolonged periods prior to gamete release, and intuition suggests that the male's presence may impair the female's ability to move about and feed. The authors tested the prediction that female locomotion and feeding would be reduced during amplexus in laboratory experiments with cane toads, *Bufo marinus*. Amplexus reduced the female's locomotor (sprint and swim) performance, with the degree of locomotor impairment (speed and distance per hop) dependent upon the body size of the amplectant male for trials of terrestrial locomotion, but not for aquatic locomotion. Amplexus also reduced feeding rates in females; amplectant males did not feed at all. Overall, the data confirm that amplexus imposes locomotor and feeding costs to female cane toads, and suggest that this distinctive posture may generate sexual conflict in at least some anuran species.

LIVESTOCK EFFECTS ON FROG POPULATIONS

M. J. Adams et al. [2009, J. Herpetology 43(1):132-138] note that livestock grazing is a common land use across the western U.S., but concerns have been raised regarding its potential to affect amphibian populations. The authors studied the short-term effects of full and partial livestock grazing exclosures on *Rana luteiventris* (Columbia spotted frog) populations using a controlled manipulative field experiment with pre- and post-treatment data (2002–2006). Despite a significant increase in vegetation height within the exclosures, treatment effects were not seen for egg mass counts, larval survival, or size at metamorphosis 1–2 years following grazing exclosure installation. Late summer water samples showed concentrations of nitrite, nitrate, ammonia, and orthophosphate that were low or near detection limits across all ponds and years. These results do not support a hypothesis that limiting cattle access to breeding ponds will help conserve *R. luteiventris* populations in the study area. Further research is needed to evaluate regional variation and long-term effects of grazing exclosures on *R. luteiventris* populations.

SITE SELECTION BY A STUMP-BREEDING FROG

Y.-S. Lin et al. [2008, Herpetologica 64(4):413-421] evaluated time- and context-dependent nest site selection of a phytotelm-breeding frog (*Kurixalus eiffingeri*) in a natural bamboo habitat in subtropical Taiwan from 2004 to 2005. At the beginning of the breeding season (mid-March), frogs preferred bamboo stumps with large water holding capacity, which may be considered high-quality stumps since water availability is critical to the survival of tadpoles. Prior to 21 May, no tadpole-occupied stumps were re-used even though they represented 10–40% of total stumps at the study site; however, tadpole-occupied stumps were consistently re-used afterwards. Stumps with fewer tadpoles were used proportionally more than those with more tadpoles. By choosing the stumps with fewer tadpoles, the negative competitive effect of the late-clutch tadpoles on the early-clutch tadpoles would be somewhat alleviated. Male frogs did not breed in the same bamboo stump for consecutive breeding events, which may relate to the male reproductive strategy. The authors propose that it would often be a better strategy for a male frog to breed in different stumps than to stay in the same stump, even if the stump was of high quality. Breeding in multiple stumps would increase the number of breeding opportunities by reducing the interval between successive mating attempts, minimize the inter-clutch competition between tadpoles, and avoid competition between two cohorts of its own genetically-related tadpoles. Results suggest that stump quality is indicated by water holding capacity and the number of the tadpoles in the stump during early and late breeding seasons. Thus, oviposition site choice in this species is dependent on stump quality, but stump quality is both context- and time-dependent.

SINGLE SEASON METAMORPHOSIS BY BULLFROGS

S. E. Provenzano and M. D. Boone [2009, J. Herpetology 43(1): 49-54] note that although the number of temporary wetlands used by many amphibian species has declined nationally, permanent wetlands have increased on the landscape in many regions. Species like bullfrogs (*Rana catesbeiana*) may benefit from permanent wetlands and increase their density on the landscape, making them more likely to encounter wetlands used by amphibians breeding in temporary ponds. Although bullfrogs are typically viewed as inhabitants of permanent wetlands because of their long larval periods, they are known to use temporary ponds. This study examined how larval density influenced proportion of bullfrogs metamorphosing, time to metamorphosis, mass at metamorphosis, and total bullfrog survival in mesocosm ponds. Proportion of bullfrogs metamorphosing and tadpole development were greatest in mesocosms with low tadpole density with up to 25% of tadpoles reaching metamorphosis. This study indicates bullfrogs can metamorphose in more northern climates within a single season across a range of densities, and highlights the potential for bullfrogs to successfully use temporary pond environments.

USE OF CHEMOSENSORY CUES BY TUATARA

A. A. Besson et al. [2009, J. Herpetology 43(1):124-131] note that in lizards, chemical senses play important roles in ecology and behavior. Previous studies have shown that food chemical discrimination, phylogeny and foraging modes are associated in squamates. The two major clades, Iguania and Scleroglossa, display marked differences in foraging behavior. A large majority of iguanians are primarily ambush foragers and lack prey chemical discrimination, whereas scleroglossans, mainly active foragers, are capable of prey chemical discrimination. However, evidence for prey chemical discrimination in tuatara (*Sphenodon*), the only living representative of the order Rhynchocephalia (the sister group of Squamata) is not clear. The authors compared responses to food chemical stimuli between tuatara (*Sphenodon punctatus*) and a gekkotan lizard, the common gecko (*Hoplodactylus maculatus*). They found that tuatara showed the same responses as common geckos when presented simultaneously with a series of stimuli: they spent more time in the prey zone (odor of mealworms) than the pungency or control zones; they bit only the prey stimulus; and they showed similar latency to bite and give-up time as geckos. However, unlike tuatara, geckos showed lingual sampling (tongue flicking) toward the prey stimulus. This study showed that tuatara could use chemosensory cues to detect prey in the absence of stimulus movement. Consequently, the coding of traits used to characterized tuatara as an outgroup in chemoreception studies should be revised.

BOREAL TOAD DEMOGRAPHICS

M. K. Young and D. A. Schmetterling [2009, Copeia 2009(1): 117-124] note that like many species of amphibians, boreal toads (*Bufo boreas boreas*, Bufonidae) are declining throughout portions of their range. Recent efforts have focused on describing the ecology of this species, yet few studies have evaluated demographic characteristics that may influence the persistence of boreal toad populations. Because boreal toads often convey themselves down valleys via stream channels in some areas, the authors set upstream-facing hoop nets in early to late summer in several first- to third-order tributaries in two western Montana river basins to assess the sizes of individuals using streams and examine temporal and spatial variation in captures. They made 923 captures of juvenile and adult boreal toads. Adult females were up to 125 mm snout–vent length, whereas males never exceeded 105 mm. Females tended to be heavier than males and female weights were significantly more variable. Early-summer captures were dominated by juvenile toads <40 mm; late summer catches were largely of individuals >70 mm; and toads of intermediate size were rare throughout. In tributaries of one river basin, captures of toads were more widely distributed in late summer than in early summer, whereas in tributaries of the other basin catches were similarly distributed in both periods. The authors infer from these patterns that frequent and perhaps far-ranging movements by juveniles and adults are typical of boreal toads in this region. They contend that netting streams in summer represents a useful complement to breeding site surveys for understanding the demographics and distribution of boreal toads, and perhaps other non-breeding amphibians near streams.

PREY AVAILABILITY AND HABITAT SELECTION

J. H. Sperry and P. J. Weatherhead [2009, J. Herpetology 43(1):55-64] note that an animal's requirements (e.g., food vs. shelter) from its environment are likely to vary seasonally and, therefore, so too should habitat selection. The authors tested the hypothesis that Texas ratsnakes (*Elaphe obsoleta*) choose habitats based on prey availability during their active season and on cover during winter. They examined snake habitat selection at three spatial scales and compared that to abundance of small mammals and nesting birds, which were confirmed by diet analysis to be the snakes' principal prey. Small mammal trapping and avian point counts showed that overall prey abundance was higher on mesas and slopes compared to savannahs. Compared to availability of habitats within the entire study area, snakes selected home ranges with a high proportion of slope habitat. Within home ranges, however, selection for slopes was exhibited only during winter when foraging is at a minimum and snakes are relatively inactive. Snakes did not use habitat within home ranges selectively during the active season or during the avian breeding season. The latter result suggests that ratsnakes are effective avian nest predators despite preying on birds opportunistically. However, it is also possible that some individual ratsnakes specialize on birds, whereas the majority preys on mammals. Microhabitat analysis comparing winter and active season sites showed that snakes preferentially used areas of high canopy cover and rock ground cover during winter. Collectively these results provide limited support for the hypothesis that ratsnakes use habitats based on prey availability but do indicate that ratsnakes select winter habitat based on cover availability.

DESERT TORTOISE NUTRITION

L. C. Hazard et al. [2009, J. Herpetology 43(1):38-48] note that wild desert tortoises, *Gopherus agassizii*, are eating different foods now than they were decades ago, because exotic plant species have invaded and flourished in the Mojave Desert over the last century. Reservations about the nutritional quality of exotic vegetation compared to native vegetation led the authors to conduct feeding experiments with growing, juvenile desert tortoises. They determined the digestibility of dry matter, energy, fiber, and nitrogen in four foods: *Achnatherum hymenoides* (a native grass), *Schismus barbatus* (an exotic grass), *Malacothrix glabrata* (a native forb), and *Erodium cicutarium* (an exotic forb). The largest nutritional differences among diets were between food types (fresh forbs and dry grasses) rather than between native and exotic species. The two grass diets were higher in fiber content and they contained less digestible energy than the two forb diets. The grasses contained little protein, and tortoises actually lost mass and body nitrogen while eating them. The exotic forb yielded more energy and nitrogen per unit dry mass than did the native forb, but this may be related to differences in phenological stages and associated fiber contents of these foods when they were collected. Juvenile tortoises gained weight rapidly when eating forbs and showed no evidence of having a lower digestive capability than did adults, despite their small size and immaturity. Estimates of nitrogen requirements compared to annual nitrogen intake on these diets suggested that growth of juveniles may be limited in part by dietary nitrogen.

Unofficial Minutes of the CHS Board Meeting, March 13, 2009

The meeting was called to order at 7:55 P.M. at the Schaumburg Public Library. Board members Jason Hood and Brad Trost were absent.

Officers' Reports

Recording Secretary: Cindy Rampacek read the minutes of the 2-13-09 board meeting to the board. Minor corrections were made, and the minutes were accepted.

Treasurer: Andy Malawy presented the financial reports for February and no questions were raised. PayPal account is in process; we are setting up a specific email address for the paypal account. This should be active by the next meeting.

Membership Secretary: Mike Dloogatch reported that many of those who recently failed to renew their memberships were persons who had joined the previous year to become eligible for a CHS grant.

Vice-president: Jason Hood was absent. Cindy Rampacek confirmed that Dr. Bryan Grieg Fry will be our May speaker.

Publications Secretary: Aaron LaForge continues to work on the CHS web site. There will be an online vendor application available for ReptileFest.

Sergeant-at-arms: Dan Bavirsha reported that attendance at the January meeting was 52.

Committee Reports

Shows:
• Chicagoland Family Pet Expo, Arlington Racetrack, March 20–22.
• River Trails Nature Center Earth Day event, April 18, 1–4 P.M.
• Park Voyagers Family Fun Day at the Notebaert, April 25. We have a large area to display in.
The Kids Expo went wonderfully.

Monthly raffle: Josh had no raffle report, but he did want to mention that his *Sun-Times* advertising rate has gone way up. Cindy Rampacek had several raffle items for Josh.

Adoptions: Linda Malawy reported that she has a lot of water turtles. We are receiving a donation of a Cages by Design iguana cage. Bob Bavirsha took in approximately 80 turtles in serious condition.

Old Business

Symposium 2009: The website is up and we have two speakers signed up.

Vet list: Cindy Rampacek just got it to Aaron LaForge and he will work on it during his "maternity leave."

ReptileFest: We need to get the contract signed. T-shirts are ordered. Magnets also are ordered. Cindy Rampacek will handle the donation of chips and look into places for other donations. Snake entrance is questionable; Bob Bavirhsa will work on repairs.

Big Apple offer: The board's consensus is that it is best not to support any specific business.

Past President's award: Dan Bavirsha is working on this and will do more work on it after ReptileFest.

New Business

Link Sharing requests for our website are being sent to Aaron LaForge to review for validity.

Kurt Schatzl from New England Herp Society has created a legislation action committee partnership. He reached out to the CHS for joining on this venture. We will have a few people look into the matter and report back. Rick Hoppenrath will be primary point person—Cindy Rampacek and Jason Hood will be secondary. John Archer will be responding via email to Kurt letting him know who to contact. We will reserve support until we learn more of their opinions on this matter.

Round Table

Mike Dloogatch had membership brochures on hand this evening.

Jason Hood reported that amphibians were March herp of the month for the website and the meeting.

Bob Bavirsha thanked those who participated in Reptile Rampage. It was a record year.

Rick Hoppenrath says *The Lizard King* is a wonderful book.

John Archer was quoted as CHS president several times in a *Reptiles* magazine article..

Respectfully submitted by recording secretary Cindy Rampacek

Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. Our mice and rats are vacuum-packed to greatly extend freezer life by reducing freezer burning and preserving vitamin and nutrient content. We feed our colony a nutrtionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. For a complete price list please visit our web site, www.themousefactory.com. We accept all major credit cards, PayPal or money orders. Call us **toll-free** (800) 720-0076 or send us an e-mail at info@themousefactory.com. Write us at PO Box 85, Alpine TX 79831.

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice availabe: small newborn pinks up to jumbo adults. Prices start at $25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: Rats—live or frozen. I breed rats for my collection of boas so only top quality lab chow and care will do, I'm now offering surplus animals for sale. Located in far south suburbs of Chicago. Only orders of 20 or more please, no large rats will be available. For current availability and prices, please e-mail Steve at smuys@sbcglobal.net.

For sale: Australian herp books. G. M. Storr, L. A. Smith and R. E. Johnstone, *Lizards of Western Australia: I. Skinks*, 1981, 200 pp., 20 plates with 6–8 color photos each, (s) and Storr, Smith, and Johnstone, *Snakes of Western Australia*, 1986, 187 pp., 24 plates with 1–8 color photos each, (s). Both volumes have drawings, range maps, descriptions, distributions, derivation of scientific names, and extensive bibliographies, $38 each; Raymond T. Hoser, *Australian Reptiles & Frogs*, 1989, 238 8½ × 11½" pp., 631 color photos of herps and their habitats; range maps, bibliography; info on captive husbandry, conservation, reptile photography; DJ, (h); $135; Eric Worrell, *Australian Snakes, Crocodiles, Tortoises, Turtles, Lizards*, 1967 (1966), 64 pp., many b&w and color photos, photo of Worrell milking a taipan on page 52 (h), $22; Eric Worrell *Australian Wildlife*; l966, 128 pp. nearly 200 color and b&w photos (including one of Worrell), 32 pp. on herps, mylar-covered DJ, $26. s = softbound; h = hardbound. All books in excellent condition. Books offered subject to prior sale. Orders for $25 or more sent postpaid in the U.S., $3.00 postage and handling in the U.S. for orders under $25. William R. Turner, 7395 S. Downing Circle W, Centennial, CO 80122; (303) 795-5128; e-mail: toursbyturner@aol.com.

For sale: Now taking reservations for '09 unusual garters. Please note that the ? indicates that the price will be determined at birth. Here's what is expected to be produced in June. **Easterns**: normals, $25 each/2 for $40, flames × Schuett albinos, $200–250, flame albinos, $500–600 (limited numbers), 100% het flame albinos (flames), $250–300, 100% het flame albinos (normal looking), $125, 66% poss het flame albinos (flames), $150–200, 66% poss het flame albinos (normal), $85, flames $100–150, paradox albino Florida × Florida erythristic $150–200, paradox albino Florida × flame $200–250, **leucistic/ leucistic flames**, $450–500, 100% het leucistic flames, $200–250, 100% het leucistics (normal looking), $125, silver × Schuett albino, $245, silver × erythristic (erythristic 100% het silvers), $150, silver × West Virginia anerythristic eastern, $200, silver, $295, 100% het silvers (outcrossed), $95, Carteret Cty × Schuett albinos × Carteret Cty × Schuett albinos (very limited numbers), ?, Myrtle Beach × Schuett albino × Myrtle Beach × Schuett albino, ?, anerythristic eastern - Mohr strain, $350, flame 100% het anerythristic eastern - Mohr strain, $195,100% het anerythristic easterns - Mohr strain, $150, melanistic eastern, $35, Schuett albinos (numerous bloodlines), $195–225, snow Schuett strain, $195. **Plains**: normals $25 each/2 for $40, axanthic × axanthic (Possible super axanthic), ?, axanthic × snow (double het for blizzard), $95, axanthic, $45, Nebraska albino × high red plains, $125, Nebraska albino, $75, double het Nebraska snow (Nebraska albino × anerythristic), $60, Nebraska albino × hypo, $145, red plains, $40, Iowa snow, $75, red plains × double het Iowa albino × Nebraska albino, $50, Iowa albino, $75, anerythristic plains, $45, Snowbino × quad het (expect albinos, anerythristics, snows and possible hets on these), hybino, $195, 100% het hybino, $75. **Central American**: *fulvus*, $45, *melanogaster*, $175 (limited number expected—first time available in the US), *cuitzeoensis*, $250 (very limited number expected—first time available in the US). **Red-sided**: normals, $25 each/2 for $40, blue red-sided × Kansas albino, $175, blue red-sided × anerythristic, $150, blue red-sided × normal, $95, golden red-sided × Kansas albino, $100, Iowa albino red-sided × anerythristic (double het snow), $275 pair, albino Kansas strain, $300, anerythristic, $75. **California red-sideds (new neon blue normal blood-line)**: hypo, $350, 100% het hypo, $175, outcrossed unrelated normals, $125. **Wandering**: melanistics (outcrossed), $95, Het melanistic (outcrossed), $45. ***Similis* (Florida blue-striped)**, $40. **Checkered**: granite checkereds, $100 (new recessive morph), 66% poss het (snow/granite) checkereds, $35. Scott, 919-413-8321; email: SFelzer1@nc.rr.com , website: www.albinogartersnake.com.

For sale: Trophy quality jungle carpet, diamond-jungle, and jaguar carpet pythons. Website: moreliapython.googlepages.com E-mail: junglejohn@tds.net

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: <http://www.bluechameleon.org>, E-mail: bill@bluechameleon.org, or call (239) 728-2390.

Herp tours: The beautiful Amazon! Costa Rica from the Atlantic to the Pacific! Esquinas Rainforest Lodge, the Osa Peninsula, Santa Rosa National Park, and a host of other great places to find herps and relax. Remember, you get what you pay for, so go with the best! GreenTracks, Inc. offers the finest from wildlife tours to adventure travel, led by internationally acclaimed herpers and naturalists. Visit our website <http://www.greentracks.com> or call (800) 892-1035, E-mail: info@greentracks.com

Video and Photo Archival Co.: We can quickly and conveniently transfer all your videos and photo to DVD. We will transfer your home movies and or wedding videos to DVD quickly and efficiently. Those videos are priceless. Preserve them forever. Any format home camcorder tapes are fine --- 8mm Mini-Dv VHS-c etc. Eric Siegal, (224) 623-2551.

Wanted: Shed snake skins. I am planning a revision of my guide to shed snake skins (Gray, B. S. 2005. The serpent's cast: A guide to the identification of shed skins from snakes of the Northeast and Mid-Atlantic states. Center for North American Herpetology). In order to complete the revised work, I need to examine shed snake skins from the North American species listed below. I am also interested in any field collected shed skins of any species, as well as citations or personal observations regarding shed snake skins and or ecdysis. For example information on sites used during ecdysis, date of first shedding, uses of shed skins, etc. If you have any shed skins that you would consider donating to my project, please contact me at brachystoma@hotmail.com or write to me at Brian S. Gray, 1217 Clifton Drive, Erie, Pennsylvania 16505-5215. ***Cemophora coccinea*, *Clonophis kirtlandii*, *Pantherophis guttata*, *P. vulpina*, *Farancia abacura*, *F.erytrogramma*, *Heterodon platirhinos*, *H. simus*, *Lampropeltis calligaster*, *Masticophis flagellum*, *Nerodia cyclopion*, *N. fasciata*, *N. floridana*, *N. rhombifer*, *N. taxispilota*, *Pituophis catenifer*, *P. melanoleucus*, *Regina alleni*, *R. grahamii*, *R. rigida*, *Rhadinaea flavilata*, *Seminatrix pygaea*, *Tantilla coronata*, *Thamnophis butleri*, *T. proximus*, *T. radix*, *Tropidoclonion lineatum*, *Virginia striatula* and *V. valeriae*.**

Line ads in this publication are run free for CHS members—$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: MADadder0@aol.com

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, April 29, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Dave Barker** will speak to us about ball pythons, and will also inform us about the proposed legislation now in the U.S. Congress that does not bode well for the herp community. If you have any interest in keeping herps, having your kids keep herps, or just like the idea that you and others are allowed to keep herps if you want to, then you need to know about the effect this legislation could have.

Dave and his wife Tracy own Vida Preciosa International, a facility renowned for captive-bred boas and pythons. Their recent *Ball Pythons: History, Natural History, Care and Breeding* is by far the most detailed and comprehensive book ever written about a single snake species (signed copies will be available for sale at the meeting at the $75 list price). Dave loves to share his knowledge about the biology and husbandry of snakes, and he always manages to do so in a highly entertaining manner.

At the May 27 meeting **Dr. Bryan Grieg Fry** will speak about the evolution of snake venom and about some of his experiences looking for venomous snakes all over the world. Dr. Fry leads his own venom research group within the Department of Biochemistry and Molecular Biology at the University of Melbourne [Australia]. According to his web site, www.venomdoc.com, he considers himself incredibly lucky to have a career as a "venom researcher/global snake botherer."

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

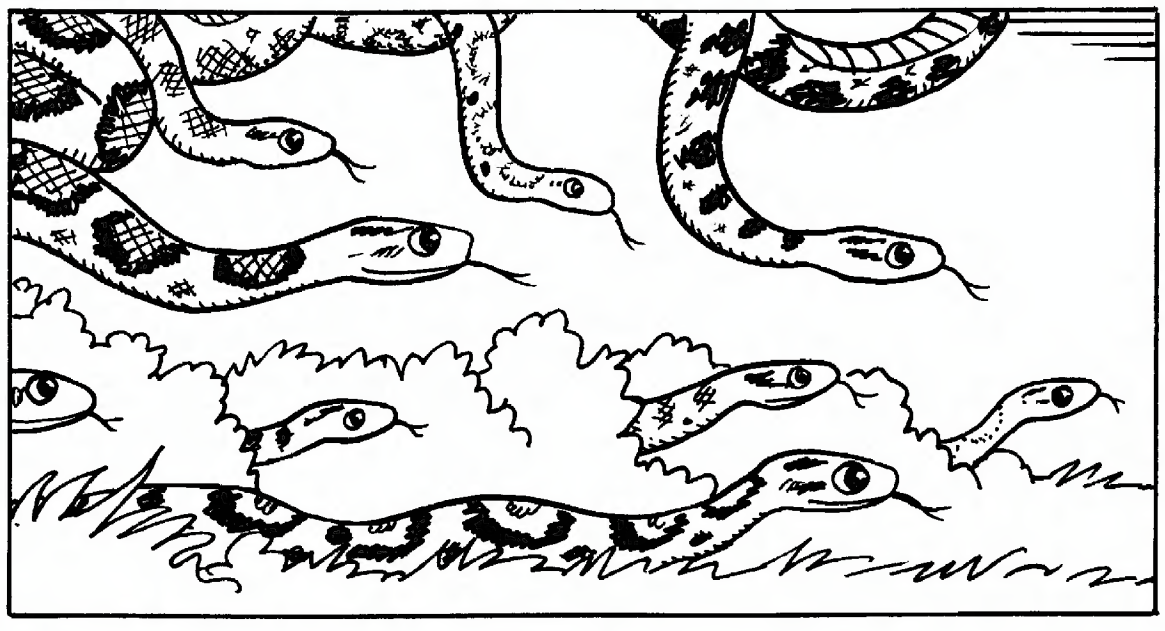
Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the next board meeting, to be held at 7:30 P.M., May 15, in the adult meeting room on the second floor of the Schaumburg Township District Library, 130 S. Roselle Road, Schaumburg.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info visit the CTC website: http://www.geocities.com/~chicagoturtle.

THE ADVENTURES OF SPOT



Periodicals Postage
Paid at Chicago IL

CHICAGO HERPETOLOGICAL SOCIETY

Affiliated with the Chicago Academy of Sciences

2430 North Cannon Drive • Chicago, Illinois 60614